

This listing of the claims replaces all prior versions in the application.

Listing of Claims:

1-4 (Canceled)

5. (Previously Presented) A method of flowably dispensing or processing dry powders from a device having a dry powder flow path, comprising:

generating a first non-linear vibration input signal, the first non-linear input signal comprising a carrier frequency modulated by a plurality of different selected frequencies that correspond to a first non-pharmaceutical dry powder formulation;

applying the first non-linear vibration input signal to a portion of a dry powder flow path while the first dry powder formulation is flowing therethrough; and

providing a second non-pharmaceutical dry powder and mixing the first and second dry powders based on the generating and applying steps.

6-13 (Canceled)

14. (Previously Presented) A method of flowably dispensing or processing dry powders from a device having a dry powder flow path, comprising:

generating a first non-linear vibration input signal, the first non-linear input signal comprising a plurality of different selected frequencies that correspond to a first non-pharmaceutical dry powder formulation;

applying the first non-linear vibration input signal to a portion of a dry powder flow path while the first dry powder formulation is flowing therethrough;

generating a second non-linear vibration input signal, the second non-linear input signal comprising a plurality of different selected signal frequencies that correspond to predetermined flow characteristics of a second non-pharmaceutical dry powder formulation; and

adjusting the non-linear input signal to apply a second non-linear vibration input signal to the flow path while the second non-pharmaceutical dry powder formulation is flowing therethrough, the second input signal being different from the first input signal.

15-23 (Canceled)

24. (Currently Amended) ~~A method according to Claim 1,~~

A method of flowably dispensing or processing dry powders from a device having a dry powder flow path, comprising:

generating a first non-linear vibration input signal, the first non-linear input signal comprising a carrier frequency modulated by a plurality of different selected frequencies that correspond to a first non-pharmaceutical or pharmaceutical dry powder formulation; and

applying the first non-linear vibration input signal to a portion of a dry powder flow path while the first dry powder formulation is flowing therethrough,

wherein the vibration energy input signal comprises imparting a high frequency motion onto a selected portion of a hopper in the flow path, with the outer bounds of the motion induced by the energy input of the hopper is small.

Claims 25-62 (Canceled).

63. (Currently Amended) ~~A method according to Claim 62,~~

A method of flowably dispensing or processing dry powders from a device having a dry powder flow path, comprising:

generating a first non-linear vibration input signal, the first non-linear input signal comprising a carrier frequency modulated by a plurality of different selected frequencies that correspond to a first non-pharmaceutical or pharmaceutical dry powder formulation; and

applying the first non-linear vibration input signal to a portion of a dry powder flow path while the first dry powder formulation is flowing therethrough,

wherein the first non-linear vibration input signal is generated using a plurality of superpositioned modulating frequencies, and

wherein the number of superpositioned modulating frequencies is at least three.

64. (Original) A method according to Claim 63, wherein the number of superpositioned modulating frequencies is four.

65. (Original) A method according to Claim 64, wherein the four modulating frequencies are in the range of between about 10-15Hz.

66-71 (Canceled)

72. (Previously Presented) A method of operating a dry powder filling system for dispensing non-pharmaceutical formulations of dry powder substances, comprising:

generating a vibratory signal comprising a carrier frequency modulated by a plurality of selected frequencies, wherein the selected frequencies corresponding to identified *a priori* flow characteristic frequencies of a non-pharmaceutical dry powder;

applying the generated vibratory signal to a dry powder in a dispensing flow path of a bulk powder enclosure; then

dispensing metered quantities of the dry powder from the dispensing flow path during the applying step,

wherein the *a priori* flow characteristic frequencies correspond to observed frequencies in an avalanche-analysis spectrum of the dry powder, and wherein the non-linear vibratory signal "x_{signal}" is a cumulative signal that comprises a sum of selected observed frequencies derived from an avalanche-analysis spectrum of the dry powder.

73. (Previously Presented) A method according to Claim 72, wherein the non-linear input signal "x_{signal}" is derived from the mathematical equation:

$$x_{\text{signal}} = xf_2 + xf_3 + xf_4 + \dots + xf_n$$

where $f_2, f_3, f_4, \dots, f_n$, respectively, correspond to most observed frequencies in an avalanche-based analysis spectrum of the dry powder and the parameter "x" used with f_2, f_3, f_4, f_n is a variable representing amplitude weight for a respective observed frequency.

74. (Previously Presented) A method according to Claim 73, wherein one or more of the weighted summed frequency components is multiplied by a mathematical phase adjustment.

75. (Previously Presented) A method according to Claim 73, wherein f_2 , f_3 , f_4 are the most observed frequencies in an avalanche-based analysis spectrum of the dry powder.

76. (Canceled)